JASCO Chemical Company Superfund Site

United States Environmental Protection Agency, Region IX, San Francisco

Mountain View, California June 1992

EPA PROPOSES CLEANUP PLAN FOR CONTAMINATED SOIL AND GROUNDWATER AT JASCO

The U.S. Environmental Protection Agency (EPA) is requesting public comment on all of the alternatives considered in cleaning up groundwater and soil contamination at the JASCO Chemical Company Superfund site (JASCO). All words that appear in **bold** print are defined in the glossary on page 10.

EPA's preferred alternative for contaminated groundwater consists of the following: (1) contaminated groundwater would be cleaned up to meet federal and state drinking water standards in the aquifer; (2) extracted groundwater would be treated to meet existing permit levels prior to discharge to the local municipal sewage treatment plant, or **Publicly-owned Treatment Works**; (3) groundwater monitoring would continue at the site; and, (4) Deed restrictions would be required to prohibit use of on-site shallow groundwater for drinking purposes. Throughout the cleanup process, EPA would monitor the movement of contaminated groundwater to control the plume.

The contaminated soils would be excavated and biologically treated to levels specified by EPA; soils beneath the production building, underground storage tank, and drum storage area would be treated when the facility is dismantled. This Proposed Plan describes this alternative and the other cleanup alternatives being evaluated. Background information on the site history and contamination is also provided.

EPA requires a two-step study at every Superfund site. The first step, the **Remedial Investigation**, determines the type, quantity, and location of contamination, as well as the overall risks associated with the contaminants. In the second step, the **Feasibility Study** identifies and evaluates cleanup alternatives to address the site contamination.

Residents and other interested parties are encouraged to read and comment on <u>all</u> of the alternatives, including EPA's preferred alternative, presented in this Proposed Plan. The Remedial Investigation / Feasibility Study, as well as other documents, which together constitute the Administrative

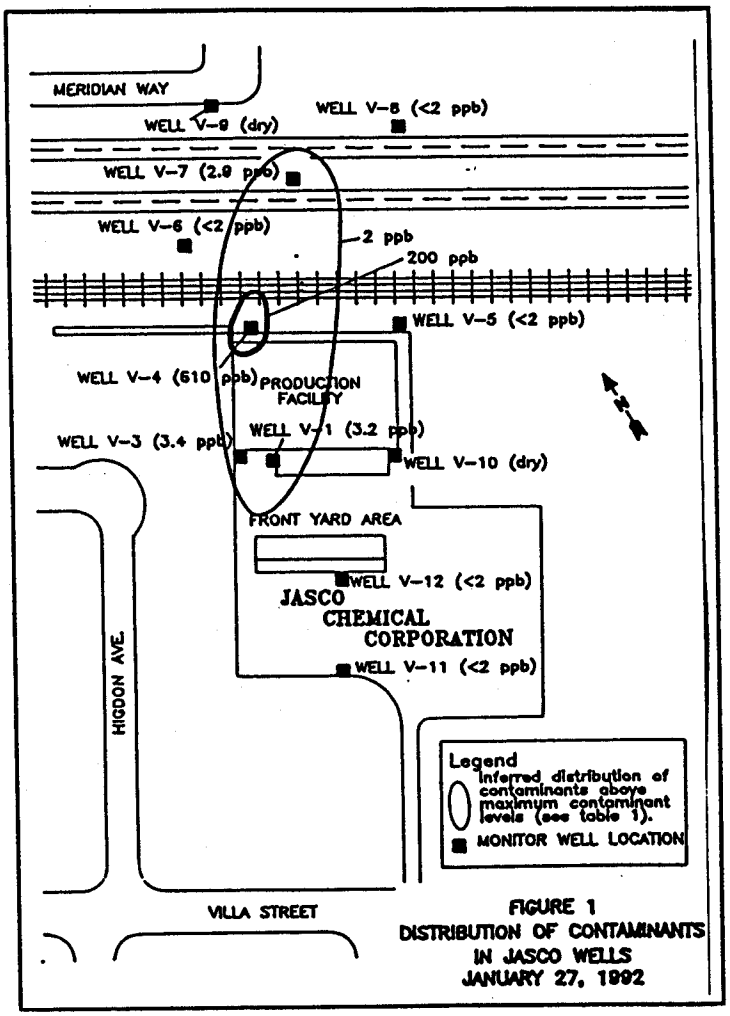


FIGURE 1
DISTRIBUTION OF CONTAMINANTS IN JASCO WELLS
JANUARY 27, 1992

INSIDE:

Public Meeting Reminder: June 24, 1992. See page 12 for details.

Record for the site, are available for public review and comment at the JASCO information repository at the Mountain View Public Library. The address is listed on page 11 of this fact sheet.

EPA will select a final remedy for cleaning up the groundwater and soil at JASCO only after considering public comments. You are encouraged to comment on all site-related documents and cleanup alternatives considered.

SITE HISTORY

JASCO Chemical Corporation has repackaged and formulated chemical products since 1976 on a 2.05-acre site located at 1710 Villa Street, Mountain View, California. The site borders the Southern Pacific Railroad tracks and the Central Expressway to the northeast. Residential housing borders the remaining sides (see Figure 1).

The facility handles and stores numerous chemicals on-site in underground tanks, 55-gallon drums, and other containers. Methylene chloride, paint thinner, denatured alcohol, methanol, kerosene, lacquer thinner, and acetone are stored in the underground tanks. Other chemicals are stored on-site in both covered and uncovered storage areas.

In 1984, the California Regional Water Quality Control Board (the Board) ordered JASCO to install a monitoring well at the site to determine if the groundwater had been contaminated. Samples taken in May 1984 revealed that paint thinner, acetone, and methanol was present in the groundwater. In April 1985, chemicals used for preserving wood and organic solvents were also detected in groundwater. High levels of volatile organic compounds were discovered in the drainage area located in the rear of the facility. In August 1987, the Board issued a cleanup and abatement order to JASCO. Past waste disposal practices, possible leakage from underground storage tanks, and surface water runoff from the facility to the drainage area are the most likely sources of the groundwater contamination at JASCO.

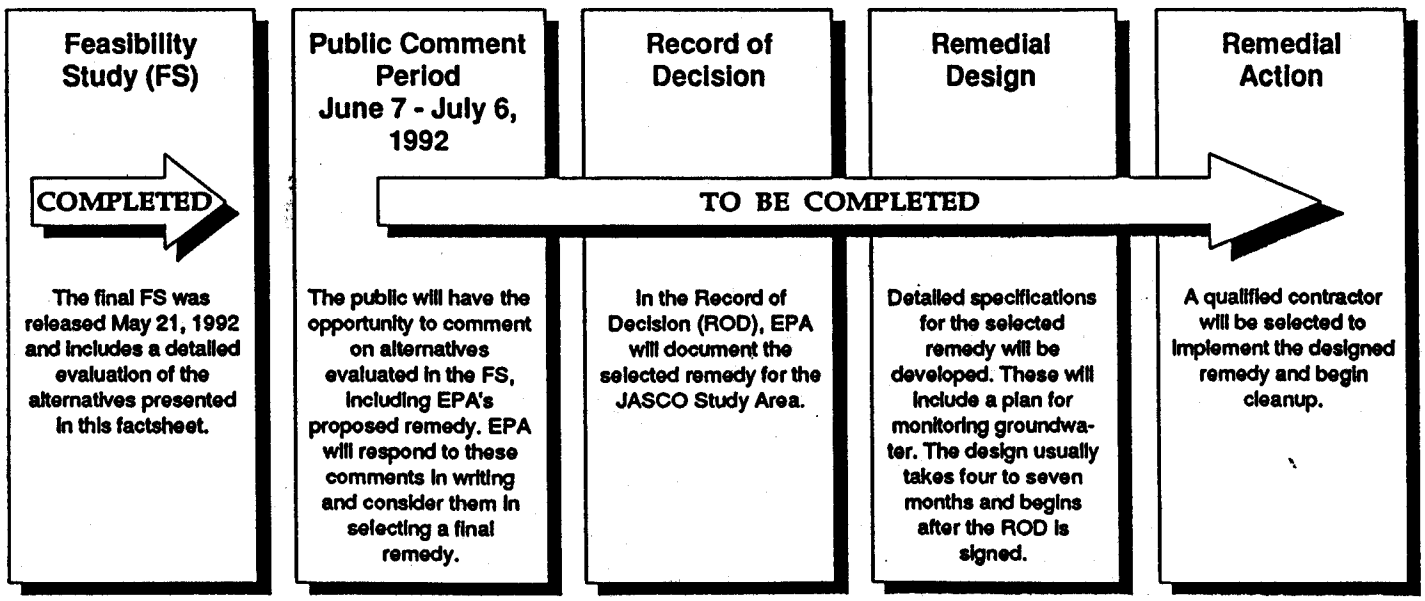
In December 1988, EPA issued an Administrative Order to JASCO to conduct the Remedial Investigation/ Feasibility Study at the site. JASCO has been working with EPA and the Board to determine the full extent of contamination at the site and to develop appropriate cleanup alternatives. During October 1989, the site was listed on the National Priorities List.

Interim Cleanup Actions

While investigations proceeded and alternatives were reviewed for cleanup of the site, interim cleanup actions were taken at the site to address potential threats to public health and the environment. In April 1987, JASCO began extracting and discharging contaminated groundwater from an on-site well to the city sewer system. The extraction well captures the most highly contaminated groundwater from beneath the site. An operating permit allows JASCO to discharge this water as long as the contaminants are below the operating permit's maximum levels (1 part per million [ppm] for total

WHAT IS SUPERFUND?

Superfund is the common name for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), a federal law enacted in 1980. This law was reauthorized in 1986 as the Superfund Amendments and Reauthorization Act. CERCLA enables EPA to respond to hazardous waste sites that threaten public health and the environment. Figure 2 below illustrates JASCO's current position in the Superfund process.



volatile organic compounds or 0.75 ppm for any one contaminant). The discharge to the sanitary sewer is tested on a monthly basis to confirm compliance with the permit.

In October 1988, 572 cubic yards of soil from the drainage swale area was excavated and transported to a hazardous waste disposal facility in Casmalia, California. The section of soil excavated was about 10 to 12 feet wide by about 32 feet long. This excavation extended to the depth at which groundwater was first encountered (about 22 to 28 feet). The drainage swale area contained the following chemicals:

- carbon tetrachloride;
- chloroform;
- ethylbenzene;
- tetrachloroethylene (PCE);
- trichloroethylene (TCE);
- 1,1-dichloroethene (1,1-DCE);
- trans-1,2-DCE;
- 1,1,1-trichloroethane (1,1,1-TCA); and
- 1,1-dichloroethane (1,1-DCA).

Soil samples were collected from the bottom of the excavation. The concentrations of residiual organic compounds from these borings are shown in Table 1.

Following excavation, a surface water runoff management system was installed to keep water from soaking

continued on page 4

Table1: Conformation Soil Boring Results

methylene chloride	340-2,600 parts per billion (ppb)
1,1,1-trichloroethane	35-790 ppb
1,1-dichloroethane	110-300 ppb
1,1-dichloroethene	Not Detected (ND)
total petroleum hydrocarbons	ND-16,700 ppb
pentachlorophenol	ND

IS MY DRINKING WATER SAFE? YES.

The groundwater at JASCO is not a drinking water source. The City of Mountain View operates and maintains the public water supply system and ensures that drinking water supplied to consumers meets all state and federal drinking water standards. The public water supply well closest to JASCO is Mountain View Well #17 (See Figure 3). The water from Mountain View Well #17 is blended with surface water from the Hetch Hetchy system.

Well #17 was taken out of service in 1986 until it could be verified that contaminated groundwater was not affecting the well. Well # 17 was put back into use in 1988 after it was determined that contamination from JASCO was not impacting the well. The city of Mountain View regularly tests each of its wells, including Well #17 to confirm that the wells are safe. EPA has determined that at the historic and current pumping rate, the contamination from JASCO will not reach Mountain View Well #17.

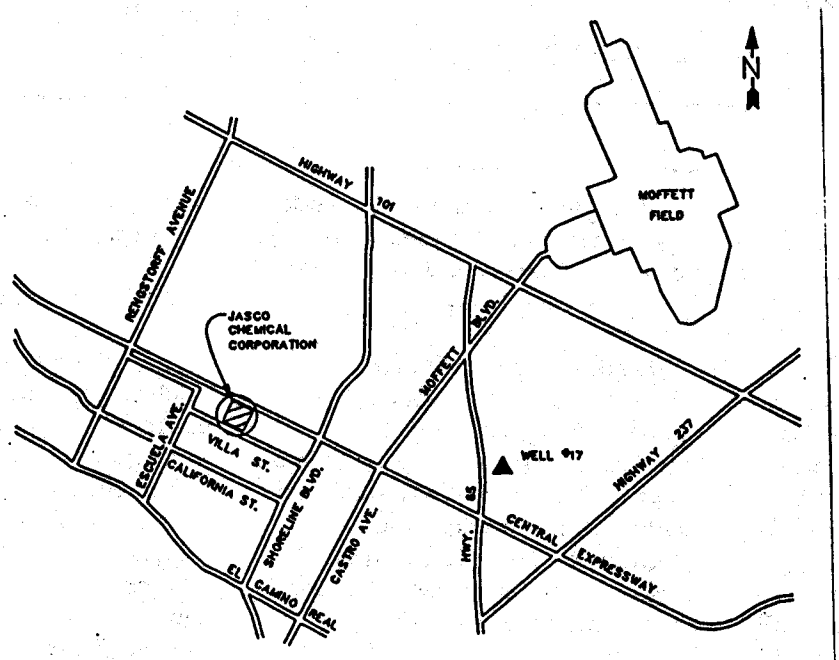


FIGURE 3
JASCO LOCATION MAP

SOIL AND GROUNDWATER AT JASCO

SOILS:

The soils illustrated in Figure 4 represent the most shallow soils at JASCO. These soils consist primarily of silts and clays with no significant groundwater-bearing zones (aquifers). The contaminated soil at JASCO has been investigated under Superfund and will be cleaned up through implementation of the final cleanup plan selected for the site.

SHALLOW AQUIFERS:

The shallow aquifers illustrated in Figure 4 are isolated from deeper aquifers by a clay layer known as an aquitard, which extends across the JASCO site. The contaminated groundwater at JASCO has been investigated under Superfund and will be cleaned up based on the preferred alternative selected through this Proposed Plan.

DEEP AQUIFERS:

Deep aquifers exist below the clay aquitard. Much of the drinking water for the City of Mountain View is pumped from these aquifers. An important concern at JASCO is that contamination from shallow aquifers could migrate down to these deep aquifers through abandoned wells and other conduits if the soils and shallow aquifers are not cleaned up.

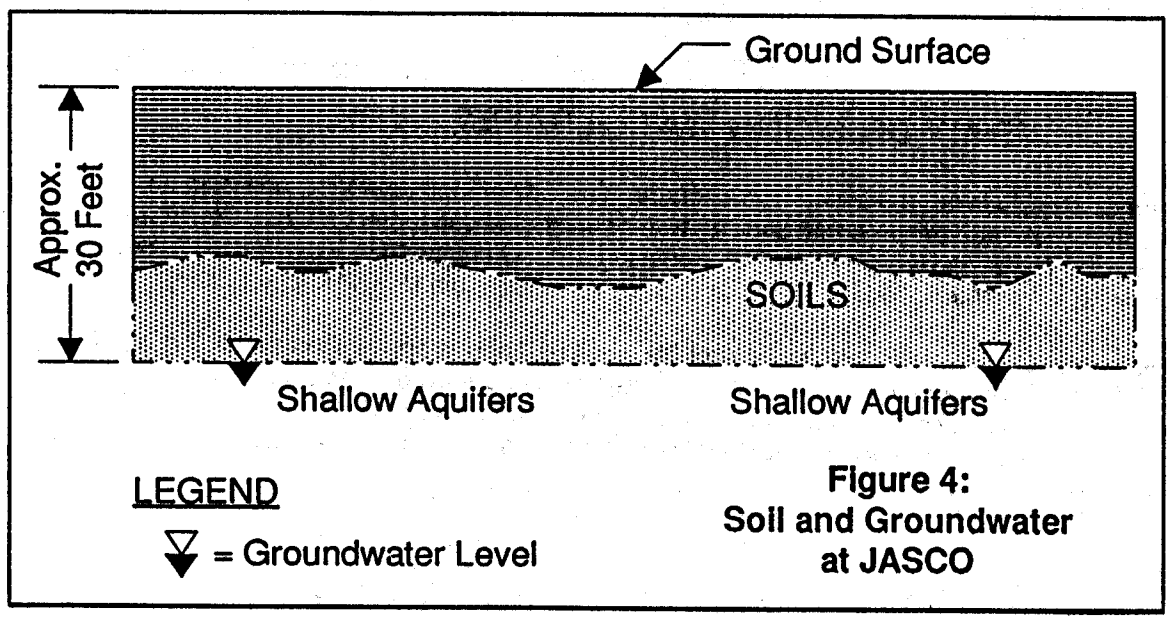


Figure 4: Soil and Groundwater at JASCO

Interim. *from page 3*
into the soil and presenting further contamination to the groundwater. This drainage system is currently in place at the site.

JASCO conducted a well use investigation which extended 600 feet east of the site, 600 feet west of the site, and about 1,000 feet north of the site. It showed no private or municipal wells producing water for any potable purposes within the JASCO area. Mountain View residences near JASCO obtain their potable water from municipal sources.

The chemicals, 1,1 DCA; 1,1 DCE; and methylene chloride were detected in groundwater above their maximum contaminant levels of 20 ppb, 6 ppb, and 5 ppb respectively.

In summary, JASCO has constructed a 14-well monitoring network, designed a runoff management system to prevent surface water infiltration within the drainage swale area and implemented a groundwater extraction system. JASCO continues to conduct quarterly groundwater monitoring.

Although site-related contaminants in groundwater are at levels of public health concern if ingestion, skin contact, or inhalation occurs, no current human exposures to contaminants exist.

The Risk Assessment

A risk assessment is a scientific analysis of potential adverse human health effects posed by exposure to chemicals associated with the site. Risk assessments estimate the possibility that one additional occurrence of cancer will result from exposure to contamination. EPA uses very conservative assumptions in preparing risk assessments. For example, EPA assumes that individuals drink 2 liters of drinking water per day from wells situated within a contaminant plume over a 70-year

lifetime. Although no drinking water wells currently draw from the contaminated groundwater at JASCO, this water source could be used in the future.

EPA uses the information in the risk assessments to select remedial alternatives and establish cleanup goals. As part of the JASCO investigation, EPA prepared a baseline risk assessment to evaluate the hazards to human health and assess the potential effects of the No Action remedial alternative on public health and the environment.

The most common pathways by which residents using water from a drinking water well installed on or near the site could come into contact with chemicals in groundwater include:

- Drinking contaminated groundwater
- Absorbing contaminants through direct contact with the skin while washing or bathing
- Inhaling vapors from evaporating chemicals during normal water use while washing or bathing

Twenty-two contaminants were detected in the soil and groundwater at JASCO. With the exception of pentachlorophenol, a wood preservative, all are classified as volatile organic compounds and total petroleum hydrocarbons. The risk resulting from direct contact to these compounds in the soil through ingestion or skin contact is not significant as defined by EPA. EPA has defined as an acceptable risk those exposure conditions which result in an excess lifetime cancer risk of between 10^{-4} to 10^{-6}, which represents one additional cancer in 10,000 and 1,000,000, respectively. However, it is likely that these chemicals could migrate from soil into the underlying groundwater to further contaminate the aquifer. Therefore, the risk associated with these soil contaminants was calculated based on how much of each chemical would migrate into the underlying groundwater and on the assumption that the groundwater from the shallow aquifer would be used as drinking water. The cleanup standards that are applied to the remediation of potable groundwater are known as the maximum contaminant levels. These health and economic-based concentrations are established standards representing safe levels of chemicals in drinking water.

The results of the baseline risk assessment at JASCO indicate that exposure to contaminants in groundwater poses the greatest potential public health concern. However, no immediate health threat exists from this contamination because no drinking water wells currently draw from the contaminated shallow aquifer system. Drinking water wells drawing from the deep aquifer are not within the contaminated groundwater zone. Nevertheless, since long-term exposure to these compounds could pose significant health risks, EPA has established cleanup standards that are protective of public health. (See Table 2.)

Among the contaminants detected in soil and groundwater, the majority of cancer risk is associated with exposure to methylene chloride and 1,2-dichloroethane. Both of these chemicals are commonly used as industrial organic solvents to dissolve fats, waxes, and rubber. As indicated by animal studies, these chemicals are probable human carcinogens.

Due to the low contaminant concentrations at the site, immediate adverse health effects are not likely. Long-term daily exposure to these compounds in groundwater (as would occur only if drinking water wells were installed) could pose a threat to human health.

TECHNICAL ASSISTANCE GRANTS PROGRAM
A PUBLIC INVOLVEMENT OPPORTUNITY

The purpose of the TAG (Technical Assistance Grants) program is to assist community groups in interpreting technical information related to a specific Superfund site. Under this program, one eligible citizens community group at each Superfund site may obtain one grant of up to $50,000 in federal funds to provide technical assistance in understanding site documents. To be eligible, a group must:

- Incorporate
- Meet a 20 percent matching fund requirement (in-kind contributions, such as donated goods and services, are permissible) or obtain a waiver of this requirement
- Meet financial and administrative requirements, and
- Prepare a plan to use technical assistance based on EPA's technical work schedule.

For more information about the TAG program, please contact:

Dorothy Wilson, TAG Coordinator, Toll-Free at 1-800/231-3075, leave a message and your call will be returned.

Table 2: EPA CLEANUP STANDARDS

CONTAMINANT (a)	GROUNDWATER STANDARD (b) (ppb)	SOIL STANDARD (c) (ppb)
1,1-Dichloroethane (C)	5.0	600.0
1,1-Dichloroethene (C)	6.0	2,000.0
1,2-Dichloroethane (B2)	0.5	30.0
Methylene Chloride (B2)	5.0	200.0
Tetrachloroethene (B2)	5.0	7,000.0
Trichloroethene (B2)	5.0	3,000.0
Vinyl Chloride (A)	0.5	20.0

NOTES:
(a) EPA weight-of-evidence designation for carcinogens is included in the parentheses.
(b) Units are in micrograms/liter (ppb).
(c) Soil standard is based on the potential contaminant migration to the groundwater, units are in micrograms/kilogram (ppb).

EVALUATION OF CLEANUP ALTERNATIVES

CLEANUP ALTERNATIVES CONSIDERED FOR JASCO

EPA has evaluated the following groundwater and soil cleanup alternatives according to the nine criteria listed in Figure 5. Figure 6 illustrates EPA's current evaluation of each alternative for groundwater and soil. The cost of each alternative also appears in Figure 6.

GROUNDWATER ALTERNATIVES

I) **No Action** - Consideration of the No Action alternative is required to establish a baseline for the other alternatives. At JASCO, No Action would require that the current groundwater extraction and discharge operations be discontinued and no other cleanup action be taken. This alternative would provide no treatment, so most of the contamination would remain and possibly spread off-site. The No Action alternative would not be effective in the short or long term.

II) **Discharge to Publicly-owned Treatment Works** - This alternative would continue, on a larger scale, the current interim cleanup action at the site. Groundwater would continue to be pumped to the City of Mountain View's sewage treatment plant under a city permit. The treatment plant is capable of safely removing the contamination. This alternative would reduce the toxicity, mobility, and volume of contamination in the groundwater.

III) **Ultraviolet Oxidation** - This alternative would involve extracting and treating the groundwater and chemically changing the contaminants into nontoxic products. The treatment would expose the chemicals to ultraviolet light and oxidizing agents which cause the contaminants to form less toxic products. This is a sophisticated process that requires extra set up and maintenance time. One disadvantage, however, is that the presence of petroleum in the groundwater could decrease this alternative's effectiveness.

IV)* **Liquid Phase Carbon Adsorption** - This is EPA's preferred alternative for cleanup of the groundwater (See Figure 7). Groundwater would be extracted and passed through a liquid phase carbon adsorption bed. The contaminants adhere to the activated carbon, which would then be removed from the site and incinerated. Incineration would destroy the contaminants. The treated groundwater would then be discharged, under a city permit, to the Mountain View sewage treatment plant. This system is easy to implement, requires little maintenance, and provides a cost-effective option for destroying the contaminants. It would also permanently remove the contaminants from the site and provide overall protection to human health and the environment. The alternative would greatly reduce contamination in the groundwater in the short term. Reduction of remaining contamination over the long-term would continue at a slower pace. Cleanup objectives would require about 10 years to achieve.

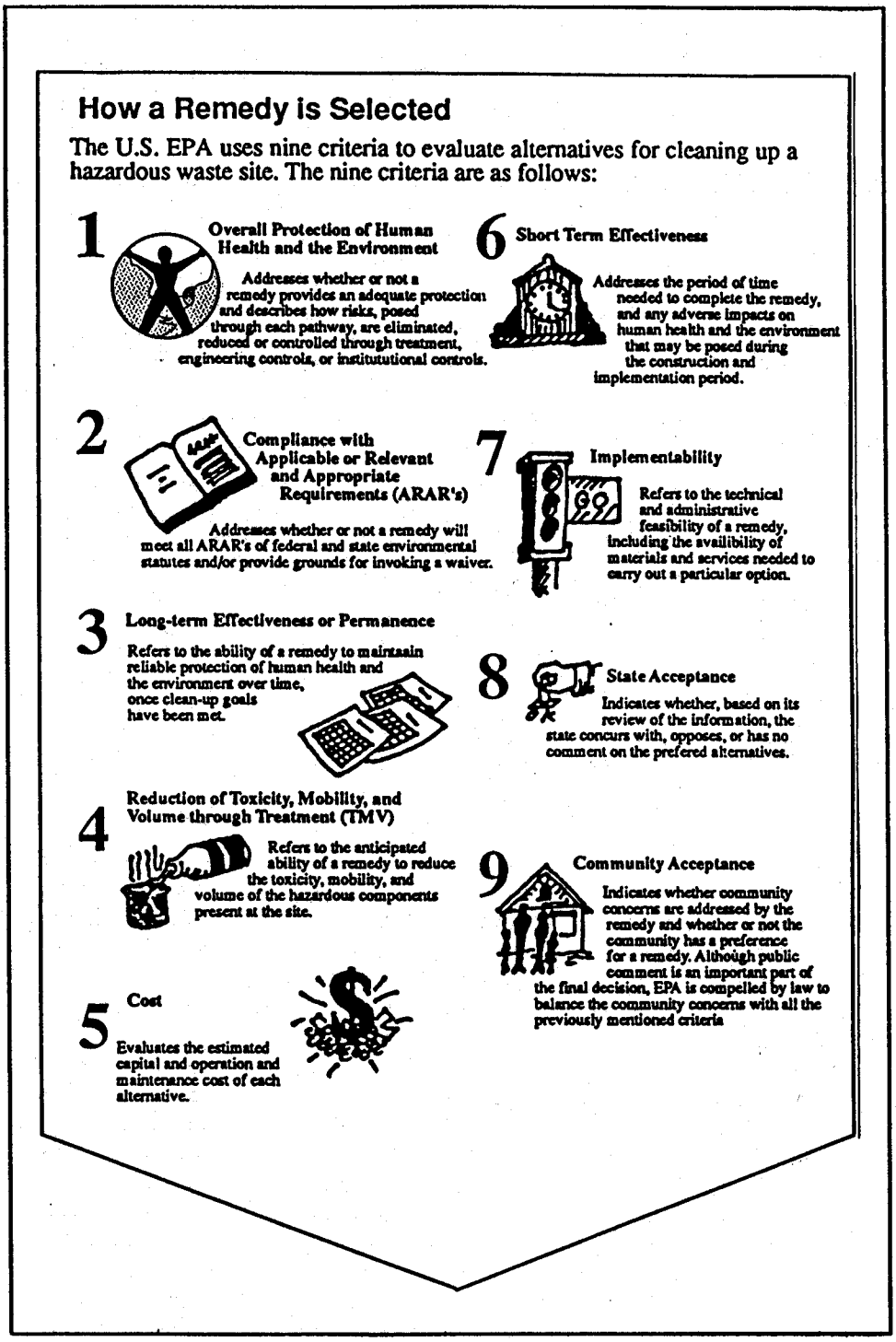
V) **Air Stripping** - This alternative would take advantage of the fact that organic contaminants present in the groundwater are volatile, or will evaporate easily into

* EPA's Preferred Alternative

the air. The groundwater would be extracted and passed through an air stripper that would mix clean air with the contaminated groundwater in a tall cylinder. During mixing, the contaminants would evaporate. The air containing the contaminated vapor is then treated with activated carbon to which the contaminants adhere. The carbon filters would then be taken off-site and most likely incinerated. This process is complicated due to the low level of groundwater flow at JASCO and the requirement that a holding tank be constructed so an adequate amount of water can be stored and then sent through the system. An operator must be available to turn the system on and off. Also, the low flow rate may not provide a strong driving force for the contaminants to adhere to the carbon. These factors may act to increase the cost of the alternative.

VI) **Biological Treatment** - This alternative involves extracting the groundwater and biologically treating it to destroy the majority of contaminants. Following biological treatment, the groundwater passes through a carbon adsorption system to remove any remaining contaminants. Although this alternative would immediately destroy many of the contaminants present at higher concentrations, biological treatment systems may undergo disruptions due to temperature, contaminant concentration, and other system shocks.

Figure 5: Selecting a Cleanup Remedy



SOIL ALTERNATIVES

I) **No Action** - As with groundwater, the No Action option is considered as a baseline for comparison of the other alternatives. No treatment would be implemented and the soil would simply be left in place. Although some degradation would occur over time, most contaminants would migrate to the groundwater. The no action alternative would not be effective in the short or long term.

II) **Off-site Treatment** - This alternative involves excavating the contaminated soil and transporting it off-site for treatment at a facility holding a permit to treat hazardous waste in compliance with state and federal regula-

Figure 6: EPA Evaluation of Potential Cleanup Alternatives

CRITERIA

Treatment Ready Alternatives	Protection of Human Health and the Environment	Compliance with Legally Applicable or Relevant and Appropriate Standards (ARARS)	Reduction of Toxcity, Mobility, Volume	Short Term Effectiveness	Long Term Effectiveness and Permanence	Implementability	Cost (Present Worth)
Groundwater							
I No Action	□	□	□	□	□	▲	$0
II Discharge to POTW	●	□	▲	●	●	●	72,000
III UV Oxication	●	▲	●	●	▲	●	370,000
IV Carbon Adsorption	●	▲	▲	●	▲	●	236,000
V Air Stripping	●	▲	▲	●	▲	▲	118,000
VI Biological Treatment with Carbon Adsorption	●	▲	▲	●	▲	▲	410,000
Soil							
I No Action	□	□	□	□	□	▲	$0
II Off-Site Treatment	●	●	●	●	●	●	1,683,000
III Enhanced Bio-Treatment	▲	▲	▲	▲	●	●	365,000 to 448,000
IV X-19 Treatment	▲	▲	▲	▲	●	●	278,000 to 318,500
V Excalibur Process	▲	▲	▲	▲	●	●	338,000 to 470,000

● Most Effective ▲ Semi-Effective □ Least Effective

tions, most likely an incinerator. As there are no incinerators in the state of California, the soil would likely have to be transported out of the state. This would be an expensive alternative. Precautions would be necessary during excavation to reduce the amount of dust released to the environment.

III)* **Enhanced Biological Treatment** - This is EPA's preferred alternative for cleanup of contaminated soil at the site (See Figure 8). Contaminated soil would be excavated and placed in an enclosed container. The soil would be mixed with nutrients to encourage digestion of contaminants by microorganisms. The container would have an air distribution system along the bottom. Air drawn through this system would provide oxygen to the microorganisms and also extract the volatile organic compounds. The air stream would then pass through an activated carbon adsorption system. The carbon would be taken off-site and disposed of at a facility with a permit to treat hazardous waste. This alternative would provide a cost-effective option for destroying the contaminants and could be completed in less than 2 years. Precautions would be taken during excavation to reduce the amount of dust released to the environment.

IV) **X-19 Biological Treatment** - This alternative would include excavation and treatment of contaminated soil using the X-19 process (the commercial name of a biological treatment). The X-19 additive (microorganisms and nutrients) would be mixed into the soil, which would then be placed on a liner or in a treatment container. Developers of this process report that the microorganisms will consume the organic compounds to nondetectable levels within several months. Whether the treatment will destroy chlorinated hydrocarbon contaminants is not known. This treatment is a new technology that would require further study to establish its effectiveness. If proven effective, it could take less than 1 year to implement.

V) **Excalibur Process** - Like the X-19 process, this alternative involves a new technology. Contaminants would be extracted from soils using pure water and ultrasound. Ultraviolet light, ozone, and ultrasound

* EPA's Preferred Alternative

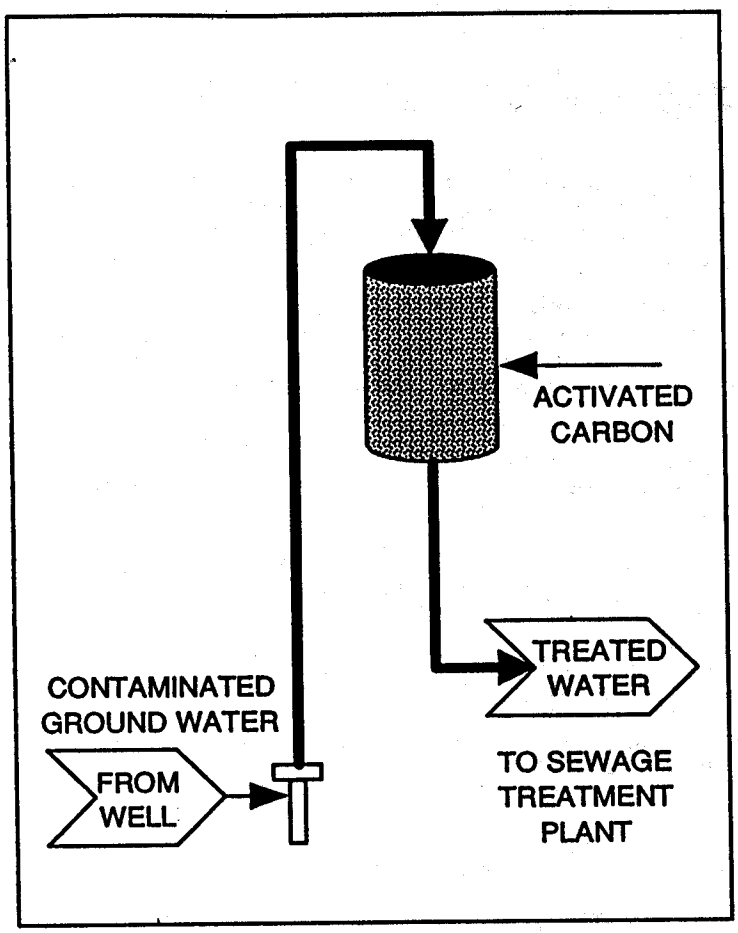


Figure 7: Liquid Phase Carbon Adsorption

would then be applied to the soils to destroy organic and inorganic contamination. The effectiveness of this process has not yet been established. Therefore, additional testing would be required. If proven to be effective, it is assumed that treatment would be completed within 1 year or less.

THE NEXT STEPS

EPA will evaluate the comments received during the public comment period and choose a final remedy for the site. The final remedy will be documented in a Record of Decision. After a final remedy is selected, EPA expects to negotiate with JASCO to obtain a commitment to design, and implement the final remedy. In the absence of such a commitment, EPA will design and implement the remedy.

HOW TO COMMENT - PUBLIC COMMENT PERIOD

June 7 through July 6, 1992

Please review and comment on this Proposed Plan, and any other information concerning the site located in the repository. Remember to comment on all alternatives we have considered. These documents are available for review at the public library listed on Page 12. Comments may be submitted to EPA during the public meeting, or in writing, postmarked no later than July 6, 1992. Please send written comments to:

Rose Marie Caraway
Remedial Project Manager
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street (H-6-3)
San Francisco, CA 94105

All comments received by EPA will be considered in the selection of the final remedy at JASCO. The final remedy will be presented in the Record of Decision. EPA will respond to comments in a Responsiveness Summary. The Record of Decision and Responsiveness Summary will be available in the JASCO information repository.

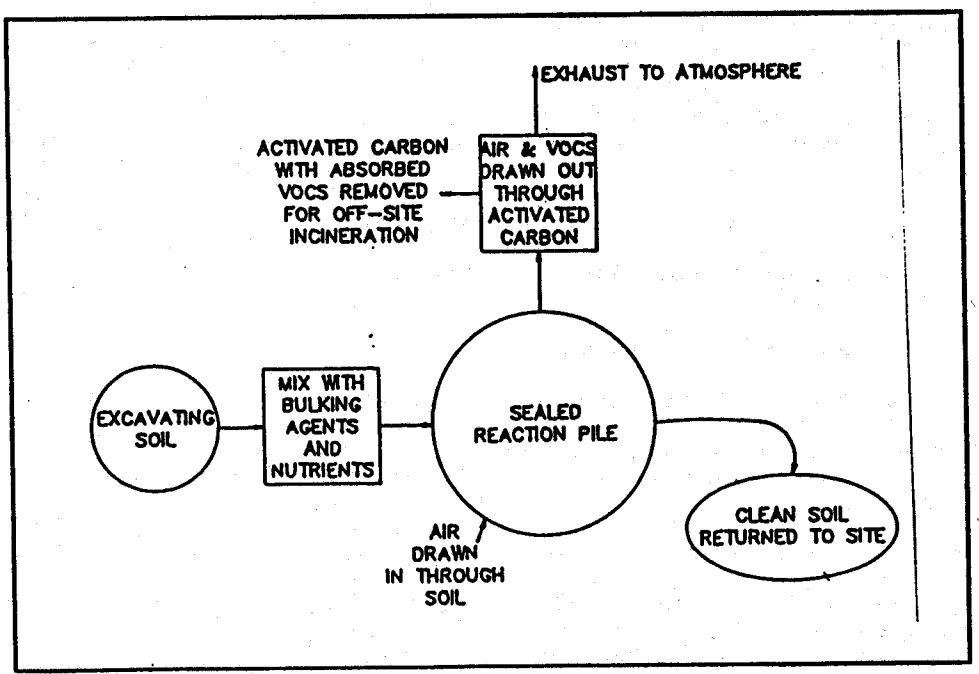


Figure 8: Enhanced Biological Treatment

GLOSSARY

Administrative Order: A legal document issued by the EPA requiring the potentially responsible parties (PRPs) at a site, to perform an RI/FS.

Administrative Record: The files containing all the documents relied on by EPA to select a remedy at a Superfund site.

Aquifer: An underground geologic structure composed of materials such as sand, soil, or gravel that can store and supply groundwater to wells and springs. Most aquifers used in the United States are within 1,000 feet of the earth's surface.

Aquitard: A confining bed that retards but does not prevent the flow of water to or from an adjacent aquifer.

Biological Treatment: A cleanup process where microorganisms, either bacteria or fungi, are used to change contaminants into harmless compounds.

1,1-Dichloroethane (1,1-DCA): A volatile, moderately toxic organic chemical used as a solvent and fumigant. DCA can cause skin irritation and liver and kidney damage.

1,1-Dichloroethene (1,1-DCE): A colorless, sweet-smelling, volatile liquid used in the production of adhesives and Saran. 1,1-DCE is a possible human carcinogen that also irritates skin and mucous membranes and has caused cancer and liver and kidney damage in laboratory animals.

Groundwater: Underground water that fills pores between particles of soil, sand, and gravel or openings in rocks to the point of saturation. Where groundwater occurs in significant quantity, it can be used as a water supply.

Inorganic Compound: A compound that does not contain carbon and hydrogen.

Liquid Phase Carbon Adsorption Bed: A cylindrical tank filled with carbon that treats streams of liquid contaminated with organic contaminants, including volatile organic compounds.

Maximum Contaminant Levels (MCLs): Enforceable federal drinking water standards as promulgated under the federal Safe Drinking Water Act. MCLs apply at the point of use (such as at the tap), but are often used in developing groundwater clean-up levels. MCLs are based on treatment technologies, costs, and other feasibility factors.

National Priorities List (NPL): EPA's list of top priority hazardous sites that are eligible for investigation and cleanup under the federal Superfund Program.

Organic Compound: A compound that contains carbon and hydrogen.

Oxidation: A process where hydrocarbon compounds are transformed to carbon dioxide and water.

Pathway: The route a chemical takes to enter the body.

Parts Per Billion (ppb), Parts Per Million (ppm): A level of concentration. One ounce of TCE in one billion ounces of water is 1 ppb. If one drop of TCE is mixed in a competition-sized swimming pool, the water will contain about 1 ppb of TCE. A concentration of one (1) ppm is 1,000 times greater that one (1) ppb.

Publicly-owned Treatment Works (POTW): A sewage treatment facility.

Record of Decision (ROD): A public document that explains the cleanup alternative(s) to be used at a Superfund site. The Record of Decision is based on information and technical analyses generated during the Remedial Investigation/Feasibility Study and consideration of public comments and community concerns.

Remedial Action (RA): The actual construction or implementation phase that follows the remedial design phase of the selected cleanup alternative at a Superfund site.

Remedial Design (RD): The engineering design phase of work on a Superfund project that follows the Record of Decision, in which technical drawings and specifications are developed for the subsequent remedial action at a Superfund site.

Remedial Investigation/Feasibility Study (RI/FS): Two separate but related studies. During the Remedial Investigation, the types, amounts, and locations of contamination at a site are identified. In the Feasibility Study, alternatives for cleaning up the contamination are identified, screened, and evaluated.

Responsiveness Summary: A summary of oral and written public comments received by EPA during a comment period and EPA's responses to those comments.

Risk Assessment: A part of a Remedial Investigation that evaluates the risks to public health and the environment from potential exposure to contaminants at a site.

Surface Water: Bodies of water that are above ground (such as rivers, lakes, streams) and precipitation (such as rain water) flowing on the ground.

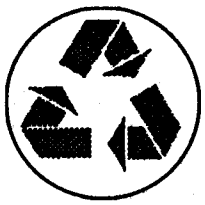
Total Petroleum Hydrocarbons (TPH): A category of organic chemicals that accounts for the amount of petroleum-related hydrocarbons in a medium.

1,1,1-Trichloroethane (1,1,1-TCA): A volatile, organic solvent that can cause nervous system depression and cardiovascular effects in high doses.

Trichloroethylene (TCE): A moderately toxic, volatile, organic solvent that has been shown to cause cancer in laboratory animals and is classified by EPA as a probable human carcinogen. TCE is used in dry-cleaning and to remove grease from metal.

Ultrasound: Sound waves that can enhance chemical reactions.

Volatile Organic Compounds (VOCs): Organic compounds with a boiling point less than 100° centigrade. VOCs are characterized by their tendency to readily evaporate (volatilize) at room temperature. Some familiar substances containing VOCs are solvents, gasoline, paint thinners, and nail polish remover. VOCs found at JASCO include trichloroethylene (TCE), dichloroethane (DCA), benzene, dichloroethene (DCE), choroethane, methylene chloride, and paint thinner.



Look for recycling symbols on products you buy. Such symbols identify recycled or recyclable products. Support recycling markets by buying products made from recycled material.

FOR MORE INFORMATION

The Remedial Investigation/Feasibility Study, Proposed Plan, Administrative Record, and other site-related documents are available for public review at the JASCO information repository:

City of Mountain View Public Library
585 Franklin Street
Mountain View, CA 94041
Contact: Reference Desk
(415) 903-6335

Hours: Monday to Thursday: 10 a.m. to 9 p.m.
Friday, Saturday: 10 a.m. to 6 p.m.
Sunday: 1 p.m. to 5 p.m.

If you have questions about the site or if you require more information, please contact:

Dorothy Wilson
Community Relations Coordinator
U.S. EPA, Region IX
75 Hawthorne Street (H-1-1)
San Francisco, CA 94105
(415) 744-2179

Paula Bruin
EPA Media Contact
U.S. EPA, Region IX
75 Hawthorne Street (E-2)
San Francisco, CA 94105
(415) 744-1587

Rose Marie Caraway
Remedial Project Manager
U.S. EPA, Region IX
75 Hawthorne Street (H-6-3)
San Francisco, CA 94105
(415) 744-2235

or call 1-800/231-3075 and leave a message.

MAILING LIST

If you did not receive this Jasco fact sheet in the mail and would like to be on our permanent site mailing list, please fill out and return this coupon to Dorothy Wilson, U.S. EPA, Community Relations Coordinator, 75 Hawthorne Street, (H-1-1), San Francisco, CA 94105-3902

Name: _____

Address: _____

City/State/Zip Code: _____

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

PUBLIC MEETING

You are invited to attend a public meeting which will present the findings of the Feasibility Study (FS) and EPA's proposed remedy for addressing JASCO contamination. EPA officials will respond to questions and accept comments from the public about the FS and the EPA preferred remedy for site cleanup.

DATE: June 24, 1992
TIME: 7:00 p.m.-10:00 p.m.
PLACE: Mountain View City Hall
(Council Chambers)
500 Castro Street
Mountain View, California

PUBLIC COMMENT PERIOD

You are encourage to review all alternatives considered and EPA's Proposed Plan. Written comments will be accepted during the public comment period, which runs from June 7 through July 6, 1992. Written comments must be post-marked no later than July 6, 1992. Oral and/or written comments will be accepted during the public meeting.

The FS report, the EPA's Proposed Plan, and other site-related documents are available for your review at the City of Mountain View Public Library, 585 Franklin Street.

United States Environmental Protection Agency
Region 9
75 Hawthorne Street (H-1-1)
San Francisco, CA 94105
Attn: Dorothy Wilson

Si usted quiere una copia de esta hoja sobre el sitio "JASCO" an Español, favor de llamar al 1-800-231-3075 y dejar un mensaje.

INSIDE: Proposed Plan for Cleanup at the JASCO Superfund Site